DAP AUDIO

ACX-23

ORDERCODE D1935

SHOWELECTRONICS FOR PROFESSIONALS

Congratulations!
You have bought a great, innovative product from DAP Audio.
The DAP Audio ACX-23 brings excitement to any venue. Whether you want simple plug-&-play action or a sophisticated show, this product provides the effect you need.

You can rely on DAP Audio, for more excellent audio products.
We design and manufacture professional audio equipment for the entertainment industry.
New products are being launched regularly. We work hard to keep you, our customer, satisfied.
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You can get some of the best quality, best priced products on the market from DAP Audio.
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Always get the best -- with DAP Audio !

Thank you!

DAP Audio ACX-23 Product Guide

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WARNING

CAUTION!

Keep this system away from rain and moisture!

FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY BEFORE YOUR INITIAL START-UP!

SAFETY INSTRUCTIONS

Every person involved with the installation, operation and maintenance of this system has to:

- be qualified
- follow the instructions of this manual

CAUTION! Be careful with your operations. With a dangerous voltage you can suffer a dangerous electric shock when touching the wires!

Before you initial start-up, please make sure that there is no damage caused by transportation. Should there be any, consult your dealer and do not use the system.

To maintain perfect condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this manual.

Please consider that damages caused by manual modifications to the system are not subject to warranty.

This system contains no user-serviceable parts. Refer servicing to qualified technicians only.

IMPORTANT:

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the system.

- Never let the power-cord come into contact with other cables! Handle the power-cord and all connections with the mains with particular caution!
- Never remove warning or informative labels from the unit.
- Never use anything to cover the ground contact.
- Do not insert objects into air vents.
- Do not connect this system to a dimmerpack.
- Do not switch the system on and off in short intervals, as this would reduce the system's life.
- Do not open this device. Risk: hazardous radiation exposure.
- Do not run the output of any amplifier channel, back into another channel's input.
- Do not connect (parallel or series) an amplifier output with any other amplifier output.
- Only use system indoor, avoid contact with water or other liquids.
- Avoid flames and do not put close to flammable liquids or gases.
- Always disconnect power from the mains, when system is not used. Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.
- Make sure you don't use the wrong kind of cables or defective cables.
- Make sure that the signals into the mixer are balanced, otherwise hum could be created.
- Make sure you use DI boxes to balance unbalanced signals; All incoming signals should be clear.
- Make sure that the available voltage is not higher than stated on the rear panel.
- Make sure that the power-cord is never crimped or damaged. Check the system and the power-cord from time to time.
- Avoid flames and do not put close to flammable liquids or gases.

- Before connecting or disconnecting the power cord, make certain the ON / OFF switch is in the OFF position.
- Before switching on or off make certain the sound system's amplifiers are off or turned down: this will avoid signal peaks, which are annoying and sometimes dangerous (particularly for speaker enclosures).
- Avoid installing your equipment very near radio or TV sets, mobile phones, etc., as these can cause RF (radio frequency) interference.
- When connecting the other parts of your sound system, watch out for the so-called "ground loops".
- The best way (even if not always feasible) to avoid ground loops is to connect the electric ground of all the equipment to a single central point ("star" system). In this case, the central point can be the mixer.
- To avoid or solve hum and buzzing troubles, try different combinations of lifting grounds on units that are supplied with ground lift switches or make sure all chassis are connected to earth ground, either through the A.C. power cord ground or by the front panel rack mount screws.
- Before changing your grounds around, always turn your amplifiers down.
- Keep this user's manual for future consultation. Also remember that the crossover will get a better price on the secondhand market if (as well as being in good condition) it has its original documentation and packaging.
- Always operate the unit with the AC ground wire connected to the electrical system ground.
- Do not drive the inputs with a signal level bigger, than required to drive the equipment to full output.
- In system setup, the amplifier's output power must be 50%-100% more than the loaded loudspeakers rated power.
- Please turn off the power switch, when changing the power cord or signal cable, or select the input mode switch.
- Sometimes, when you want to send one signal to more than one amplifier, you should use a signal distributor.
- Extreme frequency boosts in connection with a high input signal level may lead to overdriving your equipment. Should this occur, it is necessary to reduce the input signal level by using the INPUT control.
- To emphasize a frequency range, you don't necessarily have to move its respective sliding control upward; try lowering surrounding frequency ranges instead. This way, you avoid causing the next piece of equipment in your sound path to overdrive. You also preserve valuable dynamic reserve ("headroom")
- For replacement use fuses of same type and rating only.
- Prevent distortion! Make sure that all components connected to the ACX-23 have sufficient power ratings. Otherwise distortion will be generated because the components are operated at their limits.
- Avoid ground loops! Always be sure to connect the power amps and the mixing console to the same electrical circuit to ensure the same phase!
- If system is dropped or struck, disconnect mains power supply immediately. Have a qualified engineer inspect for safety before operating.
- If the system has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your system. Leave the system switched off until it has reached room temperature.
- Repairs, servicing and electric connection must be carried out by a qualified technician.
- WARRANTY: Till one year after date of purchase.

OPERATING DETERMINATIONS

If this system is operated in any other way, than the one described in this manual, the product may suffer damages and the warranty becomes void.
Any other operation may lead to dangers like short-circuit, burns, electric shock, etc.

You endanger your own safety and the safety of others!

Improper installation can cause serious damage to people and property !

Description of the device

Features

The ACX-23 is a professional crossover:

• 2x XLR Input and 4x XLR Output
• Clip LED
• Low and High Mute buttons
• Adjustable Input Gain, Crossover Frequency, Low Frequency Phase.
• Adjustable Low and High Frequency Output Level.

Overview

1. Power Switch
   Use this button to switch your crossover on.
   Note: Pay attention to the special POWER ON / OFF Function, it won't produce pulse strike to your amplifier and speakers, when you switch ON / OFF the ACX-23. This practical function can effectively protect your expensive amplifier and speakers in case of an error operation.
2. "POWER" Indicator
   This indicator lights when the crossover is switched on.
3. Mode Indication
   This indicator shows the current mode of the ACX-23. Light on, means it is working as 3-way mono; light off means it is working as 2-way stereo.
4. Output Clip LED
   This LED indicates whether the output signal is clipped or not. When the LED flashes once in a while, indicating the signal is sometimes clipped. When the LED frequently flashes, the signal is clipped often. You should reduce the input, to the point the LED is not flashing anymore.
5. Low Cut LED
   This indicator shows the current Low Cut Filter status. Light on means the low cut filter is at work, light off means it is not working.
6. Input Level Control
   This control allows you to adjust the input level from -∞ to +6dB.
   NOTE: Too much adjustment can distort the signal.
7. Decuple Frequency (x10) LED
   This LED shows the current crossover ranges. When the button (16) on the rear panel is pressed down, the LED is on and the adjusting range is from 620 Hz to 8.5 KHz. When the button is pushed out, the LED is off and its range is from 62 Hz to 850 Hz.
8. Crossover Frequency Control
   This knob is to adjust the crossover frequency; its range is limited by the decuple frequency button (16).

When the button is pushed out its range is from 62 Hz to 850 Hz, and when the button is pressed down, its range is from 620 Hz to 8.5 KHz.

9. Low Frequency Phase Adjust
   This knob is to adjust the phase of the low frequency output signal. Generally, the althorn would produce more or less phase change and badly affects the timbre. At this time, you could use this knob to adjust the phase of the low frequency and reduce the difference between the low and high pass. Its adjusting range is from 0° to 360° furthest reduces the timbre change that is caused by the high frequency phase change.
10. Low Frequency Output Level
    This knob is to adjust the output level of the low frequency signal. The range is fully adjustable from -∞ to +12dB.
11. Low Mute Button
    Press the button and the low frequency signal has no output and the LED on the left will light up.
12. High Frequency Output Level
    This knob is to adjust the output level of the high frequency signal. The range is fully adjustable from -∞ to +12dB.
13. High Mute Button
    Press the button and the high frequency signal has no output and the Led on the left will light up.

ACX-23 DESCRIPTION REAR PANEL:

14. High Frequency Output XLR
    This jack is the high frequency output connector, it has BAL and UNBAL Mode. The XLR output connector is balanced and wired as Pin 1=Ground, Pin 2=+, Pin 3= -. The XLR output connector is unbalanced and wired as Pin 1= -, Pin 2=+, Pin 3=Ground. No matter whether it is on BAL and UNBAL Mode, the output level is constant.
15. Low Frequency Output XLR
    This jack is the low frequency output connector, it has BAL and UNBAL Mode. The XLR output connector is balanced and wired as Pin 1=Ground, Pin 2=+, Pin 3= -. The XLR output connector is unbalanced and wired as Pin 1= -, Pin 2=+, Pin 3=Ground. No matter whether it is on BAL and UNBAL Mode, the output level is constant.
16. Decuple Frequency (x10) Range Button
    Press this button, the LED (7) illuminates and the crossover range is from 620 Hz to 8.5 KHz.
    When the button is pushed out, the LED is off and its range is from 62 Hz to 850 Hz.
17. Input XLR
    This jack is the signal input connector, it has BAL and UNBAL Mode. The XLR input connector is balanced and wired as Pin 1=Ground, Pin 2=+, Pin 3= -. The XLR input connector is unbalanced and wired as Pin 1= -, Pin 2=+, Pin 3=Ground. No matter whether it is on BAL and UNBAL Mode, the output level is constant.
18. Mode Button
    With this button you can select whether you want to work in stereo or mono mode. Press the button and the LED (3) illuminates and the crossover works in mono 3-way mode; Pushed out, the LED (3) is off and it works in stereo 2-way crossover mode.

19. 30 Hz Low Cut
    Press this button and the signal comes into 30 Hz / 18dB / OCT low cut filter. It can remove the harmful signal, such as low frequency hum noise, the strike sound switching ON / OFF the microphone or the current noise, etc.
20. Remote Power Supply Input Socket
    This is the remote AC power supply input socket for the ACX-23. It is a special three cores socket. The model for this power supply adapter is “YH-18A-1000”. In order to make your ACX-23 work in a stable and safe condition, please use this special power supply adapter we provide.

Installation

Remove all packing materials from the ACX-23. Check that all foam and plastic padding is removed. Screw the equipment into a 19" rack. Connect all cables.
Always disconnect from electric mains power supply before cleaning or servicing.
Damages caused by non-observance are not subject to warranty.

Set Up and Operation

Before plugging the unit in, always make sure that the power supply matches the product specification voltage. Do not attempt to operate a 120V specification product on 240V power, or vice versa.
Install this device on a flat surface, not bending or curved.
Do not supply power before all components of the system are set up and connected properly.

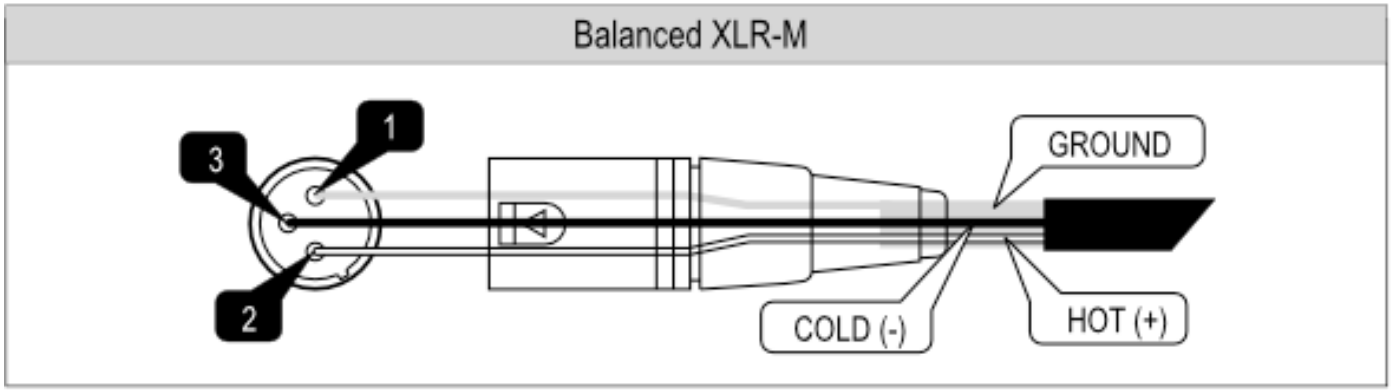
1. Stereo 2-way and mono 3-way combined. Each group frequency is designed with an independent mute switch.
2. The 24 dB decuple frequency filter provides a sharper crossover frequency and improve the speaker’s analytic ability.
3. The low frequency phase adjust function makes sure the same phase output.
4. It has a 30 Hz low cut filter removing the low frequency disturb and protecting low speaker.
5. BAL and UNBAL input and output connectors provide constant output level

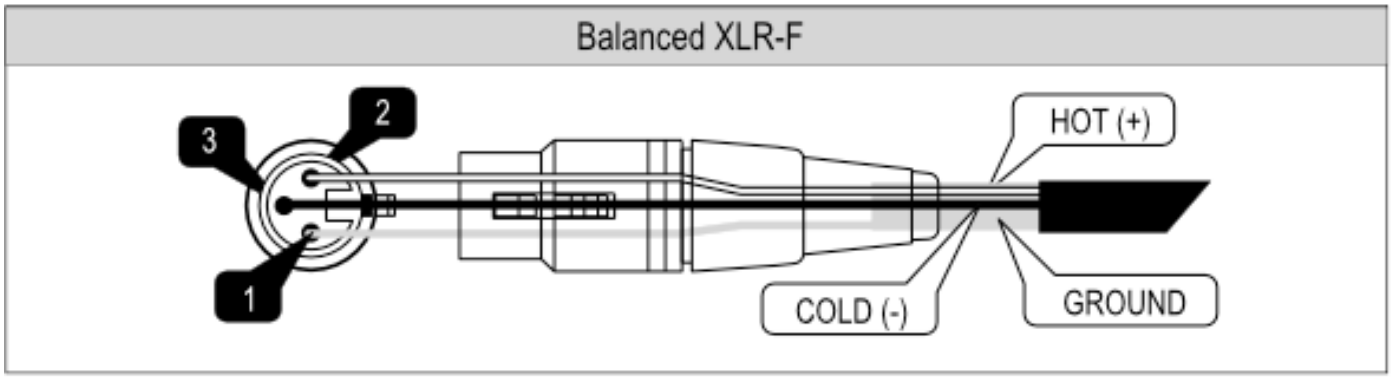
Stereo and mono modes can easily be set by pushing a switch and connecting Inputs and Outputs properly: no patch cords required.

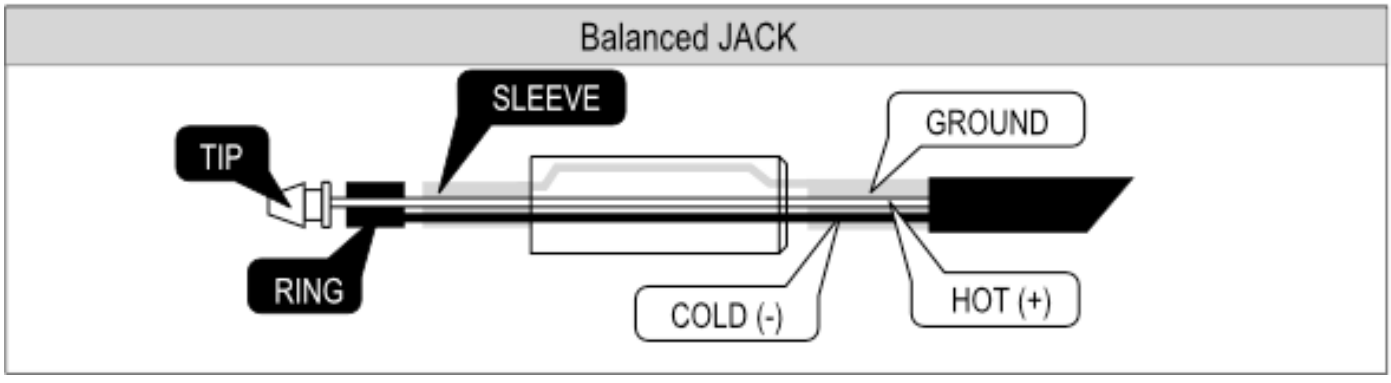
Input and Output
All inputs and outputs are floating and balanced when connected (via a tip, ring.) to other floating and balanced equipment. Any combination of balanced and unbalanced operation is permitted (see also “Connection Cables”).

Connection Cables

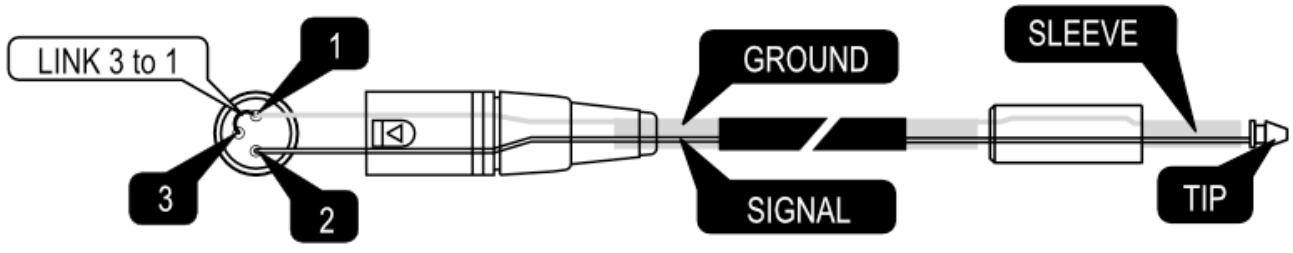
In this chapter you'll find the wiring diagrams for the connectors to be used with your crossover.
Take care of the connector cables, always holding them by the connectors and avoiding knots and twists when coiling them: This gives the advantage of increasing their life and reliability, which is always to your advantage.
Periodically check that your cables are in good condition, that they are correctly wired and that all their contacts are perfectly efficient: a great number of problems (faulty contacts, ground hum, discharges, etc.) are caused entirely by using unsuitable or faulty cables.



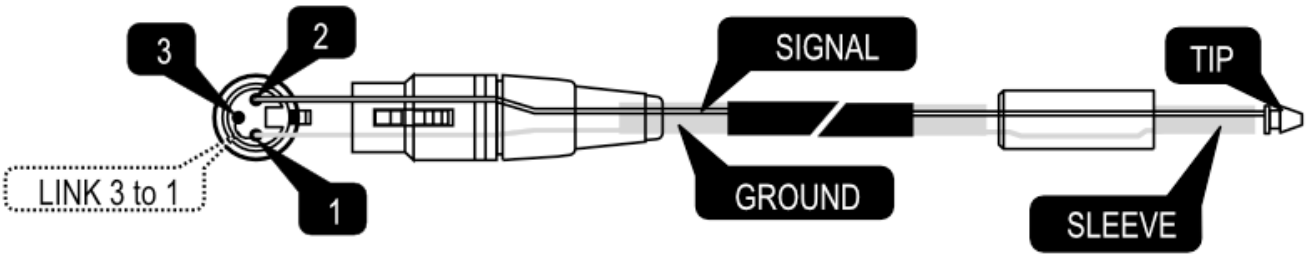




XLR-M-JACK unbalanced link



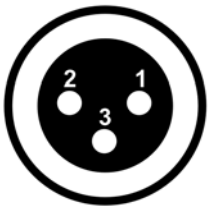
XLR-F-JACK unbalanced link



XLR - plug

1: Ground
2: Signal (+)
3: Signal (-)

XLR - socket



1: Ground
2: Signal (+)
3: Signal (-)

Maintenance

The ACX-23 crossover requires almost no maintenance. However, you should keep the unit clean. Disconnect the mains power supply, and then wipe the cover with a damp cloth. Do not immerse in liquid. Keep connections clean. Disconnect electric power, and then wipe the audio connections with a damp cloth. Make sure connections are thoroughly dry before linking equipment or supplying electric power.

Troubleshooting

Dap Audio ACX-23

This troubleshooting guide is meant to help solve simple problems.
If a problem occurs, carry out the steps below in sequence until a solution is found. Once the unit operates properly, do not carry out following steps.

1. If the device does not operate properly, unplug the device.
2. Check the power from the wall, all cables etc.
3. If all of the above appears to be O.K., plug the unit in again.
4. If you are unable to determine the cause of the problem, do not open the crossover, as this may damage the unit and the warranty will become void.
5. Return the crossover to your Dap Audio dealer.

Product Specifications

Model: DAP Audio ACX-23
Power: AC2x 18V 315mA
S / N Rate: > 95dB
Frequency response: 10Hz – 40KHz (+/- 0.3dB)
THD %: <0.03%
Crossover frequency range: 62 Hz – 8,5 KHz
Phase correct range: 0° - 360°
Dynamic range: 118dB
Input gain: -∞ ~+6dB
Low output gain: -∞ ~+12dB
High output gain: -∞ ~+12dB
Indicator: Power, Mode, Clip, Low Cut, Decuple frequency (x10) range, Low mute, High mute LEDS
Input impedance: Balanced > 20 KΩ / Unbalanced > 10 KΩ
Output impedance: Balanced < 300 Ω / Unbalanced < 150 Ω
Input connector: XLR (1=G, 2=+, 3=-)
Output connector: XLR (1=G, 2=+, 3=-)
Dimensions : 483 x 115 x 44.5 mm (LxWxH)
Weight : 2.5 kg

Design and product specifications are subject to change without prior notice.

CE

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